Knowledge domains for health professional students seeking competency in the continual improvement and innovation of health care

As part of the Institute for Healthcare Improvement’s work to incorporate the teaching of quality improvement into health professions education curricula, these eight knowledge domains were identified as essential core content that all health professions students should learn as part of their training.

1. Health care as process, system. The interdependent people (patients, families, eligible populations, caregivers), procedures, activities, and technologies of health care-giving that come together to meet the need(s) of individuals and communities. (This includes knowledge of powerful design concepts for health care systems. e.g.: An appreciation of the value of standardization in reducing errors, and of parallel processing and externalizing steps in reducing delays.)

2. Variation and measurement. The use of measurement to understand the variation across and within systems to improve the design and redesign of health care. (This includes the use of graphical methods and control charts in patient care, and general competency in the use and display of measurements over time. e.g.: The ability to construct and use run charts for a balanced set of measures of performance of a key process, such as patient registration or ongoing management of a diabetic patient.)

3. Customer / Beneficiary knowledge. Identification of the person, persons, or groups of persons for whom health care is provided or may be provided in the future, an understanding of their needs & preferences and of the relationship of health care to those needs and preferences. (This includes forms of patient involvement in care such as self-care, shared decision-making, and “patient-centered care.” e.g.: The ability and willingness to “walk-through” a care process in the patient role, or to conduct and learn from a focus group meeting with patients and families.)

4. Leading, following and making changes in health care. The methods and skills for designing and testing change in complex organizational care-giving arrangements, including the general and strategic management of people and the health care work they do in organizations. (Such activities include a general understanding of health care financing, information technology, the roles that individuals of different professional preparation play in daily health care-giving and the development of a supportive internal organizational climate for working, learning and caring. e.g.: What is needed to create an environment that welcomes change for the improvement of the quality and value of the work done.)

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5. Collaboration. The knowledge, methods and skills needed to work effectively in groups, to understand and value the perspectives and responsibilities of others and the capacity to foster the same in others, including an understanding of the implications of such work. (e.g.: An understanding of and ability to use the core ideas of principle-centered negotiation in the design of a new clinical care service.)

6. Social context & accountability. An understanding of the social contexts (local, regional, national, global) of health care giving and the way that expectations arising from them are made explicit. This specifically includes an understanding of the financial impact and costs of health care. (e.g.: The capacity to understand and predict the implications of a specific change on the total cost of care and on the cost and profit profile of a specific health care organization.)

7. Developing new locally useful knowledge. The recognition of the need for new knowledge in personal daily health professional practice and the skill to develop new knowledge through empiric testing. (e.g.: The ability to organize and lead a prompt, informative trial (PDSA cycles) of a new system for managing asthmatic patients.)

8. Professional subject matter. The health professional knowledge appropriate for a specific discipline and the ability to apply and connect it to all of the above. (e.g.: Familiarity with the classic authors in the field of health services research, “quality assurance,” studies of variation in clinical practice and the relation of those studies to the clinical knowledge related to the daily care for patients.)